

# Improving the affordability of water charges

## Purpose of paper

The affordability of water and sewerage charges has climbed the political agenda in recent years. Defra and the Welsh Assembly commissioned Anna Walker to review household water charges.<sup>1</sup> The affordability of water charges is, in the first instance, a function of the overall level of revenue that has to be raised from customers both at the current time and into the future. Having identified the level of revenue that the industry needs to raise from its customers, there are issues as to how the revenue that has to be paid for by customers should be divided up between different types of customer. There are then issues about how the industry could communicate with its customers in order that they value the service that is provided and the payment of bills is made as easy as possible.

These three factors are discussed in turn.

## Overall level of charges

Water and sewerage charges are determined after detailed consideration of the capital expenditure needs of the water undertakers, their cost of capital and level of operating costs. As such, it is vital that each of these inputs to the calculation of charges is rigorously assessed and no higher than it needs to be. It is equally important to ensure that companies have an incentive to adopt the lowest cost (accepting that no solution will ever be perfect) method of achieving the desired outcome. Separating non-household retail activities from the core monopoly business in Scotland seems to have resulted in much improved focus on the needs of the customer. A similar separation of household retail activities may also improve the communication of the industry with households- particularly those who experience payment difficulties. Finally, a failure to improve understanding of how costs are incurred could result in scope for efficiency being overlooked.

## The required level of capital expenditure:

Capital expenditure can be divided into maintenance, enhancement and growth. The proportion allocated to growth is relatively small and is, in large part, financed by developers and the resulting increase in the number of connected properties. For the sake of this note, comments on enhancement investment can be taken to include growth.

Maintenance expenditure impacts customers' bills immediately and directly. It is allowed for in full in companies' regulatory contracts. Companies have a clear incentive to claim increased maintenance costs because this will tend to reduce

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<sup>1</sup> The terms of reference for Anna Walker's review are set out at [www.defra.gov.uk/environment/water/industry/water-charging-review/tor.htm](http://www.defra.gov.uk/environment/water/industry/water-charging-review/tor.htm)

operational costs, improve OPA<sup>2</sup> performance and reduce the operational risks that they have to manage.

Enhancement expenditure is added to the Regulatory Capital Value on which the regulated company earns a return. Each addition to the RCV is depreciated in line with its expected life. As such regulated companies will prefer capital enhancement investment (which adds to their total return) to capital maintenance. For as long as the balance sheets of the regulated companies allow, regulated companies could finance enhancement investment by attracting new capital. This will reduce the immediate impact on the customer.

Enhancement investment principally results from legislatively required improvements in environmental and public health. There is also some investment to improve the level of service provided to customers.

There have been some significant improvements in our environment and in water quality as a result of enhancement investment over the last two decades. But the time has now come to scrutinise carefully both the need and the manner of delivering further environmental improvements. The initial onus should be on Government to ensure that the implications of European Directives are consistent with other policy objectives such as the targets for reducing carbon emissions. Government should also ensure that a proper cost/benefit analysis of the required improvements is published and made generally available but particularly to the customer representative organisation. This cost/benefit analysis should make it clear what the potential maximum impact on the average household bill would be. If the cost/benefit of the improvement is favourable, the regulator would include this required outcome in its consideration of the appropriate level of charges.

Any improvements which do not pass a cost/benefit test may be financed by the customer if the customer representative organisation were to confirm that there is a clear willingness on the part of customers to meet the costs of these improvements.

This involvement of the customer representative bodies in the definition of the required improvements in public health and the environment would ensure that there was an meaningful level of constructive engagement with customers<sup>3</sup>. In the event that customers were unwilling to pay, Government could still require the improvement to be made but the cost (both the initial capital expenditure and future operating costs) should then be met from public expenditure. Government would have to make clear the level of compliance risk that it was prepared to accept. It is important to note that this may lead to different environmental standards in different parts of Great Britain.

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<sup>2</sup> Overall Performance Assessment- an index combining performance across a wide range of parameters used by Ofwat and the Water Industry Commission for Scotland to monitor the levels of service performance of regulated companies.

<sup>3</sup> This is consistent with some of the suggestions made by Stephen Littlechild in a number of recent papers, for example 'Constructive engagement and negotiated settlements – a prospect in the England and Wales water sector?', August 2008.

The regulator should then establish the cost that should be allowed for to deliver the required improvements. This should include a detailed assessment of how the regulated company proposes to meet the required standards. In particular, the regulator should consider whether the solution is lowest cost (having regard to whether the solution requires capital expenditure or could be addressed through a change in operational practices). The regulator would assess a price cap as currently but would also suggest a maximum price that Government should have to pay for any tax-payer financed initiative.

#### The cost of capital:

The water industry is currently cash negative. It borrows substantial new capital each year. The level of borrowing is a function of the new enhancement investment committed by the industry and the level of dividends paid by the licensed (appointed) businesses to their ultimate owners. Clearly, if investors know that the industry needs to access capital each year, they are likely to demand a higher price for that capital. Moreover, as the proportion of debt relative to the regulatory capital value increases, the real cost of debt will increase to reflect the increased risk attaching to the new financing.

Analysis of the level of dividends paid by the ten water and sewerage companies since privatisation reveals that they have been consistently high. Total dividends paid amount to £24 billion<sup>4</sup> compared to the total outstanding debt of £29 billion. Moreover, the dividends paid have exceeded the full equity return<sup>5</sup> allowed by the regulator in all but one year (2001-02). While the industry's out-performance of its regulatory contracts must be recognised (including the benefit that should flow to the owners as a consequence), this cannot explain the level of dividends that have been paid. On an assumption that the dividend should be equal to half the allowed for cost of equity plus the out-performance achieved by the company, the total dividends paid could reasonably be expected to have been around £16-£18 billion. The extra borrowing has to be financed and could reasonably be expected to have increased the cost of capital of the interest materially.

At its price determination in 2004, Ofwat set a cost of capital that was based on an assumption that the risk of investment in a water company is the same as the average level of risk in the UK market<sup>6</sup>. Given that water companies have stable customer bases, have their income and costs protected by indexation and are insulated from the impact of any stranded assets<sup>7</sup>, it is difficult to understand how this can be justified.

Taking account of this evidence, it could be possible to set a much lower cost of capital. In broad terms a ½% reduction in the industry's allowed for cost of capital would reduce the level of customers' bills by about 3%.

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<sup>4</sup> Expressed in outturn prices, up until March 2008 (£30 billion in 2007-08 prices).

<sup>5</sup> The full equity return comprises retained earnings plus dividends.

<sup>6</sup> Ofwat assumed an equity beta of 1.0. Typical equity betas for utilities in other countries are much lower (often less than 0.5).

<sup>7</sup> Stranded Assets are assets that have become redundant, for example, through changes in the law or in a company's customer base.

### The level of operating costs:

At the start of each regulatory control period, the level of “base” operating costs is reassessed. Typically companies claim there has been a structural increase in the costs that they have to incur. Arguments surround issues such as energy costs; pension costs and commercial rates. There should be detailed scrutiny of such claims and proper account taken of offsetting factors, which may have benefitted the company. For example, in Scotland, Scottish Water has little, if any, exposure to higher energy costs because of the protection afforded by the link to retail inflation.

In 2004 adjustments allowed to the base line of operating costs added about 4% to customers’ bills<sup>8</sup>.

### Improving incentives:

At the current time there is a clear incentive for companies to favour capital expenditure over operating expenditure. This is for two reasons: firstly companies earn a return on their capital expenditure and secondly their operating costs are subjected to rigorous benchmarking (the results of which may be unfavourable to a company that had opted for operating cost solutions). Moreover there is also an incentive for companies to try to reallocate capital maintenance expenditure as enhancement capital expenditure for the same reason.

There is also no incentive for companies to adopt potentially more risky but more innovative and cheaper solutions. This could for example involve working with customers and developers to reduce the burden of customers on the existing assets. Such initiatives could reduce costs and improve compliance with environmental and public health standards- but may lead to a company’s profits being reduced.

The current incentive framework worked well initially and allowed for the significant investment in enhancing water and environmental quality that was required at privatisation but the new challenges faced by the industry (for example adapting to climate change without unnecessary increases in customers’ bills) requires that framework to be reviewed.

### Separation of retail activities

The Water Services etc. (Scotland) Act 2005 required Scottish Water to separate its non-household retail activities from its core network and treatment operations.<sup>9</sup> The separation identified “redundant” activities for which neither the retailer nor the wholesaler wanted to take responsibility. It also identified a number of processes that were unduly complicated. This led to a reduction in the

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<sup>8</sup> The increase was as much as 7% for South West Water and Thames Water.

<sup>9</sup> Billing of households for water and sewerage services in Scotland is administered by local authorities. The separation of non-household retail activities could therefore be done quite easily without having to deal with cost allocation issues. For this reason (and the positive benefits outlined below), there should be a legal separation of household retail activities from the network and treatment activities.

costs that had to be incurred. More importantly, however, there was an almost immediate increase in the retailer's focus on the customer. There were new tariffs, new payment terms, new methods of payment and an improved level of customer service.

Historically the industry has billed "supply points" (ie the points at the end of their water network or beginning of the sewerage system)- these are impersonal and do not require the name of the actual customer. One of the step-function changes that resulted from separation was that the "retailer ethos" took over and each connection began to be looked at as an individual customer. This experience suggests that separation may not only reduce costs (and consequently help address affordability) but could also assist in improving the communication between those who levy household charges and the actual customers.

#### The incidence of costs:

The Water Industry Commission for Scotland published an analysis of forward-looking costs in its recent draft determination. This analysis allocates financing costs principally to those assets and activities, the delivery of which has caused these financing costs to be incurred. The resulting incidence of costs is quite different to the standard historic accounting allocations of costs, which suggest that the majority of costs are in network activities. In Scotland, the Commission estimates that 72% of costs are properly related to water and waste-water treatment (including their associated resource and discharge costs). Allocating costs in this way reduces the level of leakage that can be tolerated and will help to identify and expose where excessive costs are incurred.

There has been an on-going debate about the extent to which there may be economies of scale in the water industry. It is clear that there could be economies of scale in some areas (such as customer facing retail activities) but our understanding of the actual costs of the activities that comprise the industry value chain, is insufficient to reach a definitive conclusion. However, it is almost certainly a reasonable hypothesis that an improved understanding of costs of these activities would allow us to identify further scope for efficiency (leading to lower charges for customers) even if there are no additional economies of scale.

#### **Who pays what?**

Household customers' bills reflect the regionally averaged (rather than the individual household's specific) cost of providing household water and sewerage services.

There has been a long-standing recognition that some customers may have difficulty in paying their water bill. This has been exacerbated recently because household bills have increased by more than the rate of retail price inflation. This is likely to impact the affordability of water charges for the lower paid more than for other groups.

There are two strategic approaches to making charges more affordable for those who are on low income or for those who, by dint of a medical condition, have to

use more water. The first option is some form of Government benefit; the second is that other customers are required to pay more in order that more vulnerable customers can be offered lower prices.

Given the current state of the public finances, it is highly unlikely that Government would agree to introduce even a limited new benefit. But even if the public finances were in a stronger position and they were willing to introduce a benefit, targeting an effective benefit at those most in need would not be straightforward. It would, most likely, have to be paid directly to the water companies- otherwise any "water benefit" may end up being used (especially since disconnection is not an option) for other purposes. If it were paid directly to water companies, the incentive for companies to work with these customers to help them pay their bills would be removed.

There is then the issue of who should be helped. The distribution of household incomes after housing costs is heavily skewed: median household income is substantially below the average household income. The consequence is that relatively modest help to those who pay out a larger percentage of their income in water charges is expensive.

Capping charges at a national average may actually disadvantage some of those who pay the highest proportions of their income in charges. An obvious example would be pensioners in receipt of the minimum income guarantee in a low cost area. Capping charges at the regionally averaged bill would be better but there would also be likely to be lower users who are on very low incomes who would not access any of the available assistance. Setting a lower cap would reduce the likelihood of these undesirable incidence effects but would increase markedly the cost of any scheme for the Government. There is a further potential downside of any such arrangement- it removes any incentive for those on lower incomes to save water.

The alternative approach is to increase the bills of "non-vulnerable" customers to cover the costs of providing assistance to those on low incomes. Such a policy could place a material upward pressure on the bills of these customers. This could threaten their willingness to pay for environmental improvements. As an example, to cap household bills at, say, 2% of household income after housing costs would increase the bills paid by other households by around 8%. The same issues on capping apply as with a government-financed option- indeed it could be worse in that any customer not actually in receipt of the assistance would be contributing to its cost. As such some of the lowest paid may actually be further disadvantaged!

Moreover increasing cross-subsidies between household customers would require explicit political support. Otherwise companies and their regulator are being forced into making social policy decisions, which would likely be the subject of intense critical scrutiny.

There is a further important consideration: the incidence effects which may result from household customers opting to pay for the water that they use. The incentive to switch to a meter is greatest when the rateable value of the house is high and the number of occupants is low. The switch to metering has increased

the average bill of those households who are still charged relative to the rateable value of the house in which they live. However, the switch to metering allows the development of tariff structures, which may, at the margin, assist in providing both a degree of social protection and encourage water efficiency. The design of such tariffs is complex and well beyond the scope of this note. It may, however, be worth recommending to Government that they consider trials of different meter-based tariffs. This could most easily be done in new housing developments where the unavoidable incidence effects could be more easily defended. This would have the benefit of reinforcing explicit Government support that assistance to the more vulnerable should be provided by increased cross-subsidies. But it should be seen as very much second best to ensuring that there is a firm downward pressure on the overall level of customers' bills.

### **Working and communicating with customers**

Initiatives in this area are unlikely materially to impact the affordability of the bill for the most vulnerable customers but could provide some assistance. Six such areas can be identified.

#### Identifying customers who refuse to pay:

The total level of bad debt (as a proportion of revenue)<sup>10</sup> varies markedly between companies. It does not appear to correlate well either with the average levels of bills or areas of deprivation. Evidence from Scotland in 2001/2 suggested that "won't pay" may have represented two thirds of those who did not pay. In such circumstances there could be a case to require the introduction of pre-payment meters or trickle flow valves. There would also seem to be no reason why a customer should not be allowed to opt for a pre-payment meter. However, the effect of this should be kept in perspective: even if the industry could reduce its bad debt to 0%, an individual who paid 3% of their income on water charges would still pay 2.9% with no bad debt.

A more substantial issue may be to review regularly the number of void properties (both household and non-household) to ensure that they should not be paying charges. At the current time companies do not have any significant incentive to identify such properties- particularly if they are likely to be customers where significant costs will be incurred in collecting owed charges.

#### Water efficiency advice

Water efficiency advice is important: it can reduce the bill of a customer immediately but perhaps even more important, it can reduce the industry's costs over the longer term- making charges more affordable for all customers. At the current time, although water companies have a responsibility to offer water efficiency advice, this does not appear to be as actively pursued as could be desirable. Again, this issue relates to the lack of incentive for a company to engage positively in maximising the level of achieved water efficiency. It is noteworthy that this has become an important focus of the water retail market

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<sup>10</sup> Companies' bad debt charges typically range from around 1% to more than 3% of revenue. In addition, the cost of debt recovery ranges from around ½% to more than 1% of revenue.

for non-household customers in Scotland (even where the individual properties served are relatively small with usage characteristics not materially different to households).

### Educating customers

Companies do a lot of work with schools and young people. This will no doubt improve the understanding of future customers of what they pay for in their water bill. They are not paying for “something, which just falls from the sky”. There is more that companies could do to improve the understanding of current customers. In particular it would be useful to ensure that customers understand the balance between the costs of providing the base level of service and the costs of proposed improvements.

### Transparency and accuracy in billing

This is an area where companies could do much to improve the service that they provide to their customers. It would make an important difference if companies were able to personalise bills wherever possible, ensure that addresses are complete and provide information on metering services to their customers.

### Advice on budgeting

In line with improved personalisation of bills, companies should be expected to provide assistance to customers on budgeting and offering payment methods, which would make it easier for customers to afford their bills. In this regard, the ban on pre-payment meters should be reviewed and these should be installed where the customer considers that this would be helpful.

### Company Trust Funds

Company trust funds have had a relatively small but useful impact on the affordability of charges for the most vulnerable customers. It may be possible- if charges could be contained below the rate of inflation- to allow companies to transfer some extra resources to these trusts without causing bills to other households to increase above the rate of inflation. This may have longer term benefits in reducing bad debt and helping some more vulnerable customers to get into the payment habit. This is not a solution to the issue of affordability but it could help.

### **Conclusion**

Addressing affordability can only be satisfactorily addressed if the charges that are levied on customers by regulated water businesses are no higher than they absolutely need to be. At the current time regulated companies have an incentive to favour capital over operating expenditure and there appears to be limited consideration of the overall cost benefit of environmental initiatives. This combination of high capital spending along with an inflated cost of capital leads to customers’ bills being higher than they need to be.

Government assistance to vulnerable customers is unlikely at the current time because of the general pressures on public expenditure, but even if this were

available, targeting it effectively would not be straightforward. Any increase in cross-subsidies between household customers would need the overt support of Government and may require not insignificant increases in the bills of “non-vulnerable” customers. These increases may have the unintended consequence of reducing the support of households for on-going environmental improvements. Innovative tariffs may, at the margin, assist but they will be complicated to design and would need to be trialled before more general implementation. Such palliative measures are no substitute for ensuring that companies’ revenues are tightly regulated.

Regulated water companies can do more to work with their customers and this may, at the margin, improve the affordability of their charges. This may be more likely if the retail activities are legally separated from the network and treatment activities. But it is important to be careful not to set unrealistic expectations of what such initiatives might achieve.